



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

DALL-50-C-B-A
Job Sheet 195339



Part No: DALL-50-C-B-A

Job Qty: 1 pcs

Part Name: Dyneema® Long Line, 50 foot, 4,400lb safe load (2,000kg)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 5/17/19

Job Tracking No:

Due Date: 5/17/19

Created By: Jennifer Renwick

Type: SOLD

Description: Order 14535

Note: DWG DALL-### Rev D IPP Rev. A 19.04.23 New issue DP Verify DD/IPP Rev. B 19.05.15 drawing revision
DP Verify DD

Ship Via:

Rev. C 4/15/21

*Order 14535
Ship Today!*

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Run Hrs Hrs	Workcenter/Supplier	Sign-off
90	Small Fab - Issue SN	1 pcs	5/17/19	5/17/19	0.00 0.00	Small Fab - 1	
						Small Fab - 2	
						Small Fab - 3	
						Small Fab - 4	
						Small Fab - 5	
						Small Fab - 6	
						Small Fab - 7	
100	Small Fab - 1	1 pcs	5/17/19	5/17/19	0.00 1.00	Small Fab - 1 - B4B	
						Small Fab - 2 - B4B	
						Small Fab - 3 - B4B	
						Small Fab - 4 - B4B	
						Small Fab - 5 - B4B	
						Small Fab - 6 - B4B	
						Small Fab - 7 - B4B	
110	QC 5	1 pcs	5/17/19	5/17/19	0.00 0.00	QC 5 - 10	
						QC 5 - 12	
						QC 5 - 17	
						QC 5 - 18	
						QC 5 - 19	
						QC 5 - 22	
						QC 5 - 24	
						QC 5 - 3	
						QC 5 - 43	
						QC 5 - 49	
						QC 5 - 51	
						QC 5 - 58	
						QC 5 - 68	
						QC 5 - 9	
						QC 5 - 50	
						QC 5 - 30	
						QC 5 - 40	
130	Packaging 3-1 - Stock - B4B	1 pcs	5/17/19	5/17/19	0.00 0.00	Packaging 3 - 1 - B4B	
						Packaging 3 - 2 - B4B	
						Packaging 3 - 3 - B4B	
						Packaging 3 - 4 - B4B	
						Packaging 3 - 5 - B4B	
						Packaging 3 - 6 - B4B	
						Packaging 3 - 7 - B4B	
						Packaging 3 - 8 - B4B	
						Packaging 3 - 9 - B4B	
						Packaging 3 - 10 - B4B	



Container No: S182641



Part: DALL-50-C-B-A

Job No: 195339

Serial No/Batch: S182641

Revision: D

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 05/21/19

Plex 5/17/19 10:11 AM Dart.Renwick.Jennife

				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
135	DC - 1 - B4B	1 pcs	5/17/19	0.00 0.00	DC - 1 - B4B
					DC - 2 - B4B
140	QC 21 - FG	1 pcs	5/17/19	0.00 0.00	QC 21 - FG - 21
					QC 21 - FG - 70
Part Op 90 - Issue S/N Descriptions: 100 - 1-Pick DALL long line. 2-Engrave 1632T22 tags as per DWG sheet 2. 3-Attach first tag using 90177A218 ring to zipper on -39 bag, place second tag in front pocket of -39 bag as per drawing sheet 2. 4-Pack bag. 135 - Photocopy blue file CMM-T-0001 Rev B.					

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
DALL-50-C-B-A-1	Dart Long Line, 50ft, 4400 lb Capacity, Without Lifting Ring, 3	1 pcs (1 ea)	90-Small Fab - Issue SN	5182304
1632T22	Aluminum Tag 1" X 2" X 0.04"	2 # pcs (4 ea)	100-Small Fab - 1	5058761
3896T31	Ferule 1/16 X 3/8" Aluminum	4 Ea (4 ea)	100-Small Fab - 1	
6820A12	Clear Heat Shrink Tape 3/4" Wide	.2080 (.208 ea)	100-Small Fab - 1	N/R
90905A673	Split Ring, Ø1-1/16 OD x Ø15/16 ID x 1/8	2 Ea (2 ea)	100-Small Fab - 1	5180934
CL-2-C	Lanyard Wire	1 ft (1 ea)	100-Small Fab - 1	
DALL-####-21	Dart Aerospace Bag	1 pcs (1 ea)	100-Small Fab - 1	5136150

Job Allocations

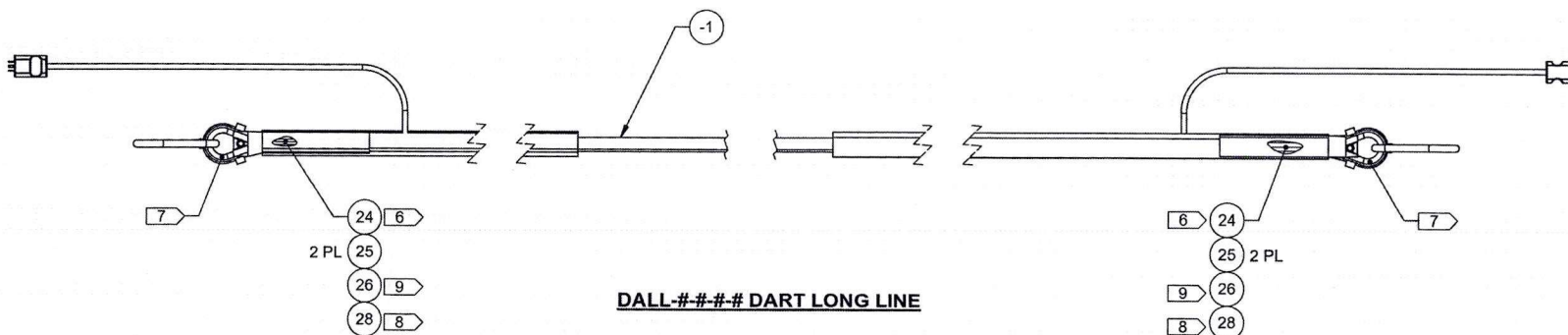
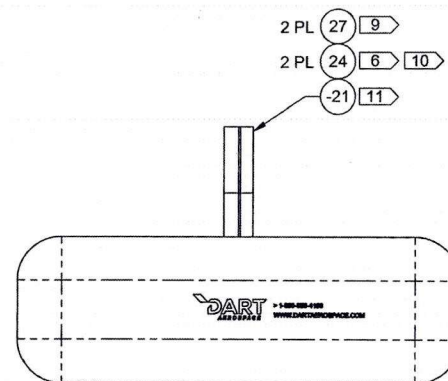
Operation	Component Part	Required	Inventory	Allocated
90-Small Fab - Issue SN	DALL-50-C-B-A-1	1	0	0
100-Small Fab - 1	1632T22	4	50	0
	3896T31	4	665	0
	6820A12	0	0	0
	90905A673	2	20	0
	CL-2-C	1	205	0
	DALL-####-21	1	10	0

Part Specifications

Specifications could not be found.

Plex 5/17/19 10:11 AM Dart.Renwick.Jennifer

ITEM #	QTY	PART #	PART TITLE
-1	1	DALL-###-1	DART LONG LINE
-21	1	DALL-###-21	DART AEROSPACE BAG
24	4	McMaster#1632T22 OR EQUIV.	ID TAG
25	4	McMaster#3896T31 OR EQUIV.	ALUMINUM WIRE ROPE COMPRESSION SLEEVE 1/16" DIA. X 3/8" LG.
26	A/R	McMaster#6820A12 OR EQUIV.	CLEAR HEAT-SHRINK TAPE 3/4" WD.
27	2	McMaster#90905A673 OR EQUIV.	SS SPLIT RING 15/16" ID. X 1-1/16" OD. X 1/8" THK.
28	A/R	CARR LANE#CL-2-C	NYLON COATED STEEL LANYARD 1/16" DIA



NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1"
X.XX = +/- 0.01" / +/- 0.5"
X.XXX = +/- 0.005" / +/- 0.1"
X.XXXX = +/- 0.0005" / +/- 0.05"
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES / LBS UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: DOT MARK THE FOLLOWING INFO ONTO ITEM 24:
P/N: DALL-###-##
LENGTH: XXX FT (REFER TO TABLE 1)
CAPACITY: XX XXX LBS (REFER TO TABLE 2)
S/N: XXXXXX (REFER TO S/N ENGRAVED ON THIMBLES)
EIS DATE: MM/DD/YYYY (EIS DATE IS THE SHIPPING DATE)
- 7) IDENTIFICATION: MACHINE ENGRAVE, OR DOT MARK, OR STAMP USING 0.25" STAMP, S/N ONTO EACH THIMBLE
- 8) ASSEMBLED LANYARD LENGTH MUST BE 5" +/- 1". LANYARD MUST BE INSTALLED WITH ID TAG TO THE BASE OF THE THIMBLE AND PASS THROUGH THE ROPE STRANDS IN ORDER TO BE SECURED. BLUE JACKET (IF APPLICABLE) VELCRO NEED TO BE FASTENED OVER ASSEMBLED LANYARD AND ID TAG. THE ID TAG MUST NOT MOVE FREELY ONCE INSTALLED.
- 9) COVER ID TAG AND SLEEVES USING ITEM 26 TO PREVENT DAMAGE TO THE ROPE
- 10) ATTACH ONE ID TAG TO THE BAG ZIPPER WITH THE SPLIT RING AND PLACE ONE ID TAG AND SPLIT RING INTO THE BAG SIDE POCKET
- 11) COIL LONG LINE INTO BAG

DESIGN	MBB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MBB		
CHECKED	KPT	TOOL PART #	REV. D
MFG. APPR.	DP	DALL-###-##	SHEET 2 OF 25
APPROVED	<i>[Signature]</i>	TITLE	
		DART LONG LINE	SCALE NTS
DATE	2019-05-09	COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

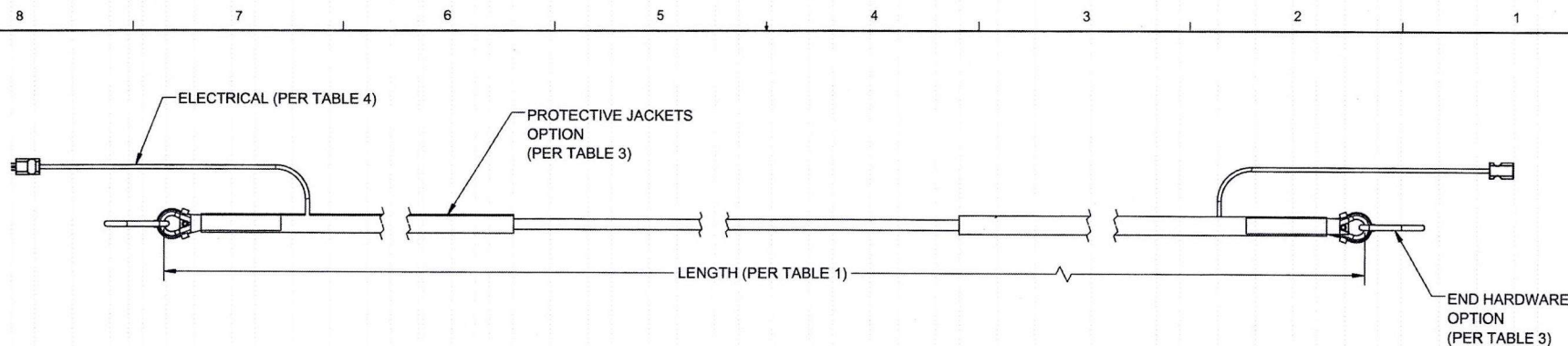


TABLE 1 LENGTH	
DART LONG LINE PART NUMBER CODE	DESCRIPTION
DALL-###-	REPLACE FIRST # WITH LONG LINE TOTAL LENGTH IN FEET (MAX 200)

TABLE 3 OPTIONS	
DART LONG LINE PART NUMBER CODE	OPTION DESCRIPTION
DALL-##-A-	WITH PEAR SHAPED LIFTING RING END AND PROTECTIVE JACKETS
DALL-##-B-	WITHOUT PEAR SHAPED LIFTING RING END AND PROTECTIVE JACKETS
DALL-##-C-F	WITH PEAR SHAPED LIFTING RING END, WITHOUT PROTECTIVE JACKETS AND WITHOUT ELECTRICAL WIRE
DALL-##-D-F	WITHOUT PEAR SHAPED LIFTING RING END, WITHOUT PROTECTIVE JACKETS AND WITHOUT ELECTRICAL WIRE

TABLE 2 CAPACITY	
DART LONG LINE PART NUMBER CODE	CAPACITY (LBS)
DALL-#-A-##	2500
DALL-#-B-##	3000
DALL-#-C-##	4400
DALL-#-D-##	5400
DALL-#-E-##	7300
DALL-#-F-##	9700
DALL-#-G-##	13 200

TABLE 4 ELECTRICAL	
DART LONG LINE PART NUMBER CODE	ELECTRICAL WIRE DESCRIPTION
DALL-###-A	3 CONDUCTOR 14 GA
DALL-###-B	3 CONDUCTOR 12 GA
DALL-###-C	4 CONDUCTOR 14 GA
DALL-###-D	6 CONDUCTOR 16 GA
DALL-###-E	8 CONDUCTOR 16 GA
DALL-###-F	NO ELECTRICAL
DALL-###-G	2 CONDUCTOR 14 GA
DALL-###-H	2 CONDUCTOR 12 GA

DALL - # - # - # - #
 PART NUMBER = DALL- (LENGTH) - (CAPACITY P/N CODE) - (OPTION P/N CODE) - (ELECTRICAL P/N CODE)
 EXAMPLE: DALL-100-A-A-A = DART LONG LINE, 100 FEET LONG, 2500 LBS CAPACITY, WITH LIFTING RING AND 3 CONDUCTOR 14 GAUGE WIRE AND BAG

D -1 UPDATED NOTES 6 & 8. ADDED NOTE 11. REMOVED WHITE FABRIC LABEL NOTE -3 UPDATED TABLE 7 (ROPE MATERIAL) -5 REMOVED DIM. 1.0. ADDED DIM B. UPDATED TABLE 8 (THIMBLE ASSY AND END HARDWARE) -6 REMOVED DIM 0.8. ADDED DIM FOR LENGTH. UPDATED TABLE 9 (RETAINER) -8 REMOVED DIM. 1.35 POCKET WIRE -13 UPDATED TABLE 10 (ORANGE JACKET) -14 ADDED DIM 2.4 REF -18 MATERIAL IS WEBBING NYLON BLACK, MIL-W-17337F, CL1, 1-1/2" WAS WEBBING NYLON BLACK, MIL-W-17337F, CL1, 1-1/2", NO FR TREAT -20 UPDATED TABLE 11 (ELECTRICAL WIRE)		19-720	MBB
C	TULMAR COMMENTS INCORPORATED	18-778	ML
B	TULMAR COMMENTS INCORPORATED, THIMBLE MATERIAL IS NOW STAINLESS, ELECTRICAL WIRE TABLE UPDATED, 15 700 LB LONGLINE REMOVED	18-770	VM
A	NEW ISSUE	18-585	VM
REV.	DESCRIPTION	ECN #	BY
DESIGN	MBB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA TOOL PART # DALL-###- TITLE DART LONG LINE SCALE NTS	
DRAWN	MBB		
CHECKED	KPT		
MFG. APPR.	DP		
APPROVED	<i>[Signature]</i>		
DATE 2019-05-09		REV. D SHEET 1 OF 25 COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ENGINEERING CHANGE NOTICE **DART AEROSPACE LTD**

Date:	19.05.7	Job No.:	RB18-EXTERNAL LOAD	ADR Yes/No:	N	ADR Date:		ECN #:	19- 720
Product No.:	DALL-###	Created By:	MBB	Approved By:					
Product Name:	DART Long Line	Checked By:	KPT						

Reason for Change:
Added new Long Line configuration, life limits and entry in service date

Documents Released:

DALL-### REV. D
CMM-T-0001 REV. B

*Previous parts satisfactory (DALL Rev. C),
must ship with cmm Rev. B 4/19/5/14*

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____ CIR: _____ URF: _____
PAPERWORK UPDATE ☒ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance / Customer Support Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Airbus	N			
3	Notify Leonardo	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	N			
6	Update Master Document List (MDL)	N			
7	Update Document Record (DR)	N			
8	Update Product Competability Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10					

#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	Y	MD	CMM WILL BE HANDLED BY WORKSTATION	19.05.13
12	Update Product Specification Files (Bluefiles)	Y	MD		19.05.13
13	Update Approved/Preliminary Dwg PDF Files	Y	MD		19.05.13
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	Y	MD	DALL #'s will be added A/R	19.05.13
17	Update / Verify Authorized Release Certificate Database	Y	MD		19.05.13
18	Create / Update Change Record Form / Item Card Database	N			
19	Create / Update Packaging Process Plan (PPP)	N			
20	Red Decals required on Packaging Process Plan (PPP)?	N			
21	Update Controlled Supplier Documents (Qpulse) Database	Y	MD	SEND COPY TO TULMAR	19.05.13
22	Update Grey Project Binder / Electronic Project Folder	N			
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	N			
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:

UPDATE PAPER WORK TO ALL DALL-### IN STOCK (CMM-T-0001 REV. B MUST REPLACE CMM-T-0001 REV. A / O&SLP REV. 8 SUPPLIED WITH TRANSPORT BAG)
PROTECTIVE JACKETS (BLUE AND ORANGES) ARE SATISFACTORY PER DALL-### REV. C
LONG LINES IDENTIFICATION MUST COMPLY PER DALL-### REV. D

RELEASE DALL-### REV. D AND CMM-T-0001 REV. B DRAWINGS
PLACE DALL-### REV. C AND CMM-T-0001 REV. A IN SUPERCEED FOLDER

ECN Verified & Complete: _____ Date: _____